



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/673,914

09/29/2003

Kurt Leipold

Harman.7297

7350

50811 7590 04/23/2007
O'SHEA, GETZ & KOSAKOWSKI, P.C.
1500 MAIN ST.
SUITE 912
SPRINGFIELD, MA 01115

EXAMINER

LAO, LUN S

ART UNIT

PAPER NUMBER

2615

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|-----------|---------------|
|--|-----------|---------------|

3 MONTHS

04/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/673,914

Applicant(s)

LEIPOLD, KURT

Examiner

Lun-See Lao

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-20 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09-29-2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is response to the 10/673,914 application filed on 09-29-2003. Claims 1-20 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4, 9, 12-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Karl (DE 19909143).

Consider claim 1 Karl teaches a sound system for a vehicle comprising at least one door (see fig.1, (3)), said sound system comprising:

a low-frequency loudspeaker (10) having a resonant volume formed by a first cavity (7) situated inside of the door (3) and by a second cavity (reads on passenger compartment) situated outside of the door; and means (13,14) for pneumatically coupling said first and second cavities (3 and passenger compartment) to form said resonant volume (see abstract).

Consider claim 2 Karl teaches that the sound system, wherein said means (see fig.1 (18)) for coupling comprises a first opening (rear of 18) in the first cavity (7) and a second opening (front of 18) in the second cavity (passenger compartment), said first

Art Unit: 2615

and second openings (rear of 18 and front of 18) being arranged in close proximity to each other when said door (3) is closed.

Consider claim 4 Karl teaches that at least one of the two openings (see fig. 1 (rear of 18 and front of 18)) is provided over the cross-sectional area (between the door and passenger compartment) with an acoustically neutral cover that is permeable to air.

Consider claim 9 Karl teaches that the two cavities (see fig. 1 (7 and passenger compartment)) are coupled to one another by a bellows, which connects (18) two openings in the cavities (7 and passenger compartment).

Consider claim 12 Karl teaches at least one of the cavities (see fig. 1 (7 and passenger compartment)) is open to the outside of the resonant volume via diffusion openings.

Consider claims 13-15 Karl teaches the second cavity (passenger compartment) includes a volume defined at least by hollow parts (see fig.1 (18,19)) of the support frame of the vehicle (see abstract); and the support frame includes an A-pillar of the vehicle (see fig.1, (7)) and the support frame includes a B-pillar of the vehicle (see fig.1, (8)).

Consider claims 16-19 Karl teaches that the support frame includes inherently a sill of the vehicle (see fig.1); and the second cavity (passenger compartment) includes a volume surrounded by bodywork parts of the vehicle (see fig.1); and the low-frequency loudspeaker (see fig.1 (10)) is installed in the bodywork parts (see abstract); and the low-frequency loudspeaker (see fig.1 (10)) is arranged in the door (3 and see abstract).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-8 and 10-11, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karl (DE 19909143).

Consider claim 5 Karl teaches that the two cavities (see fig.1 (7 and passenger compartment)) are coupled to one another by a tube connection ((18) and passenger compartment) and abstract); but Karl does not explicitly that a telescopic tube to connect two openings in the cavities.

However, a telescopic tube connection is just one type of well known tube connection (official notice is taken).

Therefore, it would have been obvious that the cavities connection device as taught by Karl could have used a telescopic tube as claimed for flexibly connecting the two opening cavities.

Consider claims 6-7 Karl teaches the tube connection has two tubes (see fig.1 (18,19)) that can be displaced one inside the other and engage in openings of the cavities (7-8 and passenger compartment and see the discussion above claim 5) and at least one of the tubes (see fig. 1(17,18)) is connected in an articulated manner to one of the two cavities (7 and passenger compartment).

Art Unit: 2615

Consider claims 8 and 10 Karl teaches that a partially tube (see fig.1, (18)) is provided for the articulated connection; and the two cavities (see fig. 1 (7 and passenger compartment)) are coupled to one another by a hose (18) that connects two openings in the cavities (see fig. 1 (7 and passenger compartment) and abstract); but Karl does not explicitly that a flexible tube or a flexible hose to connect two openings in the cavities.

However, a flexible tube or a flexible hose connection is one type of well known tube connection (official notice is taken).

Therefore, it would have been obvious that the cavities connection device as taught by Karl could have used a flexible tube or a flexible hose as claimed for easily connecting the two opening cavities.

Consider claim 11 Karl teaches the low-frequency loudspeaker (see fig.1 (10)) is surrounded by a box defining the first or second cavity (7 and passenger compartment and see abstract).

Consider claim 20 Karl teaches that the first cavity (see fig 1, (7)) is pneumatically coupled to a cavity situated outside the door by further coupling devices (18 and see abstract); but Karl does not explicitly teach a third cavity situated outside the door.

However Karl does not limit the passenger compartment to be divided in how many cavities.

Therefore, it would have been obvious that the passenger compartment as taught by Karl could have been divided in two cavities such as claimed to enhance the low frequency and security.

Art Unit: 2615

Allowable Subject Matter

6. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Waltz (US PAT. 5,902,004) and Aoki (US 2002/0151213) are cited to show other related sound system for a vehicle.

8. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Art Unit: 2615

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See *L.S.*
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 04-06-2007


VIVIAN CHIN
SUPERVISOR PATENT EXAMINER
TECHNOLOGY CENTER 2600